PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

Commissioner
US Department of Commerce
United States Patent and Trademark Office, PCT
2011 South Clark Place Room
CP2/5C24
Arlington, VA 22202
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 18 May 2001 (18.05.01)	
International application No. PCT/AU00/01083	**Applicant's or agent's file reference** 92833
International filing date (day/month/year) 11 September 2000 (11.09.00)	**Priority date** (day/month/year) 09 September 1999 (09.09.99)
Applicant CAMINSCHI, Irina et al	

1. The designated Office is hereby notified of its election made:

[X] in the demand filed with the International Preliminary Examining Authority on:

23 March 2001 (23.03.01)

[ ] in a notice effecting later election filed with the International Bureau on:

2. The election [X] was

[ ] was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO **34, chemin des Colombettes** **1211 Geneva 20, Switzerland**	Authorized officer Claudio Borton
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU00/01083

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. [7]: C07K 14/435, 14/47, C07H 21/04, A61K 39/395, A61P 37/06, C12N 5/16, 5/22, C12Q 1/24, G01N 33/54

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7: As Above

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
ANGIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	The Journal of Biological Chemistry, Vol. 271, No. 1, issue of 5 January 1996 (U.S.A.), Andrew J. McKnight et al., "Molecular Cloning of F4/80, A Murine Macrophage-restricted Cell Surface Glycoprotein with Homology to th G-protein-linked Transmembrane 7 Hormone Receptor Family", pages 486 to 489 See peptide in Fig. 1. Matching for SEQ. ID. No.1: positives 70% and identities 53%, and SEQ! ID. No.2: positives 73% and 55% identities.	1 - 4, 7 -11

[X] Further documents are listed in the continuation of Box C [ ] See patent family annex

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing
19 October 2000	1 NOV 2000

Name and mailing address of the ISA/AU	Authorized officer
AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustralia.gov.au Facsimile No. (02) 6285 3929	GAVIN THOMPSON Telephone No : (02) 6283 2240

INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU00/01083

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	Genomics, Vol. 67, No. 2, accepted 25 April 2000, (San Diego, U.S.A.), His-Hsien Lin et al., "Human EMR2, a Novel EGF-TM7 Molecule on Chromosome19p13.1 is closely related to CD97", pages 188 to 200	
P, X	See figure on page 191. Matching for SEQ. ID. No. 1: positives 79% and identities 63%, and SEQ. ID. No. 2: positives 80% and identities 65%.	1 - 4, 7 -11
	Genomics, Vol. 26, 1995, Veronique Baud et al, "EMR1, an Unusual Member in the Family of Hormone Receptors with Seven Transmembrane Segments", pages 334 to 344	
X	See Fig. 1. Matching for SEQ. ID. No. 1: positives 70% and identities 54%, and SEQ. ID. No. 2: positives 72% and identities 55%.	1 - 4, 7 - 11

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 92833	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International Application No. PCT/AU00/01083	International Filing Date *(day/month/year)* 11 September 2000	Priority Date *(day/month/year)* 9 September 1999
International Patent Classification (IPC) or national classification and IPC Int. Cl. [7] C07K 14/435, 14/47, C07H 21/04, A61K 39/395, A61P 37/06, C12N 5/16, 5/22, C12Q 1/24, G01N 33/53		
Applicant THE COUNCIL OF THE QUEENSLAND INSTITUTE OF MEDICAL RESEARCH et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

   ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of sheet(s).

3. This report contains indications relating to the following items:

I	☒	Basis of the report
II	☐	Priority
III	☐	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
IV	☐	Lack of unity of invention
V	☒	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
VI	☐	Certain documents cited
VII	☐	Certain defects in the international application
VIII	☐	Certain observations on the international application

Date of submission of the demand	Date of completion of the report
23 March 2001	5 October 2001
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer GAVIN THOMPSON Telephone No. (02) 6283 2240

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/AU00/01083

I. Basis of the report

1. With regard to the elements of the international application:*

- [ ] the international application as originally filed.
- [X] the description, pages 1 to 10, 13 to 28 , as originally filed,
  pages , filed with the demand,
  pages 11, 12, 12/1 , received on 17 August 2001 with the letter of 9 August 2001
- [X] the claims, pages 29 to 32 , as originally filed,
  pages , as amended (together with any statement) under Article 19,
  pages , filed with the demand,
  pages , received on with the letter of
- [X] the drawings, pages 1/12 to 12/12 , as originally filed,
  pages , filed with the demand,
  pages , received on with the letter of
- [X] the sequence listing part of the description:
  pages 1/19 to 19/19 , as originally filed
  pages , filed with the demand
  pages , received on with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language which is:

- [ ] the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- [ ] the language of publication of the international application (under Rule 48.3(b)).
- [ ] the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- [ ] contained in the international application in written form.
- [X] filed together with the international application in computer readable form.
- [ ] furnished subsequently to this Authority in written form.
- [ ] furnished subsequently to this Authority in computer readable form.
- [ ] The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- [ ] The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. [ ] The amendments have resulted in the cancellation of:
   - [ ] the description, pages
   - [ ] the claims, Nos.
   - [ ] the drawings, sheets/fig.

5. [ ] This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* *Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).*

** *Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report*

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims **1 to 26**	**YES**
	Claims	**NO**
Inventive step (IS)	Claims **1 to 26**	**YES**
	Claims	**NO**
Industrial applicability (IA)	Claims **1 to 26**	**YES**
	Claims	**NO**

2. Citations and explanations (Rule 70.7)

Comparsion of the full lengths of SEQ. ID. NO.s 1, 2 with the previously cited prior art sequences showed the art's sequences shared less than 50 percent identity with them.

The comparsion was performed using the GAP program (mentioned on page 11 line 24) using the Australian National Genomic Information System (ANGIS). It should be noted that the request to use different gap creation penalty (8 instead of the usual 3) and different extension penalty (2 instead of the usual 0.1) has to be accompanied by a persuasive reason. Lest it seems the motivation is to avoid the prior art.

PCT REQUEST

92833

Original (for SUBMISSION) - printed on 11.09.2000 02:35:09 PM

0 0-1	**For receiving Office use only** International Application No.	
0-2	International Filing Date	
0-3	Name of receiving Office and "PCT International Application"	

0-4 0-4-1	**Form - PCT/RO/101 PCT Request** Prepared using	PCT-EASY Version 2.90 (updated 08.03.2000)
0-5	**Petition** The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty	
0-6	**Receiving Office (specified by the applicant)**	Australian Patent Office (RO/AU)
0-7	**Applicant's or agent's file reference**	92833
I	**Title of invention**	DENDRITIC CELL MEMBRANE PROTEIN FIRE
II II-1 II-2 II-4 II-5 II-6 II-7	**Applicant** This person is: Applicant for Name Address: State of nationality State of residence	 applicant only all designated States except US THE COUNCIL OF THE QUEENSLAND INSTITUTE OF MEDICAL RESEARCH 300 Herston Road Herston, Queensland 4029 Australia AU AU
III-1 III-1-1 III-1-2 III-1-4 III-1-5 III-1-6 III-1-7	**Applicant and/or inventor** This person is: Applicant for Name (LAST, First) Address: State of nationality State of residence	 applicant and inventor US only CAMINSCHI, Irina 108 O'Hea Street Coburg, Victoria 3056 Australia AU AU

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III-2	**Applicant and/or inventor**	
III-2-1	This person is:	applicant and inventor
III-2-2	Applicant for	US only
III-2-4	Name (LAST, First)	VENDENABEELE, Stephane, Alain
III-2-5	Address:	c2/4 73 O'Shanassy Street North Melbourne, Victoria 3051 Australia
III-2-6	State of nationality	FR
III-2-7	State of residence	AU
III-3	**Applicant and/or inventor**	
III-3-1	This person is:	applicant and inventor
III-3-2	Applicant for	US only
III-3-4	Name (LAST, First)	WRIGHT, Mark, Dexter
III-3-5	Address:	90 Bendigo Street Richmond, Victoria 3121 Australia
III-3-6	State of nationality	AU
III-3-7	State of residence	AU
III-4	**Applicant and/or inventor**	
III-4-1	This person is:	applicant and inventor
III-4-2	Applicant for	US only
III-4-4	Name (LAST, First)	SHORTMAN, Kenneth, Douglas
III-4-5	Address:	92 Wilson Street Carlton North, Victoria 3054 Australia
III-4-6	State of nationality	AU
III-4-7	State of residence	AU
IV-1	**Agent or common representative; or address for correspondence** The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:	agent
IV-1-1	Name	F B RICE & CO
IV-1-2	Address:	139 Rathdowne Street Carlton, Victoria 3053 Australia
IV-1-3	Telephone No.	61 3 9655 4400
IV-1-4	Facsimile No.	61 3 9663 3099

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V	**Designation of States**	
V-1	Regional Patent (other kinds of protection or treatment, if any, are specified between parentheses after the designation(s) concerned)	AP: GH GM KE LS MW SD SL SZ TZ UG ZW and any other State which is a Contracting State of the Harare Protocol and of the PCT EA: AM AZ BY KG KZ MD RU TJ TM and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT EP: AT BE CH&LI CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE and any other State which is a Contracting State of the European Patent Convention and of the PCT OA: BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG and any other State which is a member State of OAPI and a Contracting State of the PCT
V-2	National Patent (other kinds of protection or treatment, if any, are specified between parentheses after the designation(s) concerned)	AE AG AL AM AT AU AZ BA BB BG BR BY CA CH&LI CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
V-5	**Precautionary Designation Statement** In addition to the designations made under items V-1, V-2 and V-3, the applicant also makes under Rule 4.9(b) all designations which would be permitted under the PCT except any designation(s) of the State(s) indicated under item V-6 below. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit.	
V-6	**Exclusion(s) from precautionary designations**	NONE
VI-1	**Priority claim of earlier national application**	
VI-1-1	Filing date	09 September 1999 (09.09.1999)
VI-1-2	Number	PQ2728
VI-1-3	Country	AU
VI-2	**Priority document request** The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) identified above as item(s):	VI-1
VII-1	**International Searching Authority Chosen**	Australian Patent Office (ISA/AU)

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VIII	Check list	number of sheets	electronic file(s) attached
VIII-1	Request	4	–
VIII-2	Description (excluding sequence listing part)	28	–
VIII-3	Claims	4	–
VIII-4	Abstract	1	92833abstract.txt
VIII-5	Drawings	12	–
VIII-6	Sequence listing part of description	19	–
VIII-7	TOTAL	68	
	Accompanying items	paper document(s) attached	electronic file(s) attached
VIII-8	Fee calculation sheet	✓	–
VIII-15	Nucleotide and/or amino acid sequence listing in computer readable form		–
VIII-16	PCT-EASY diskette	–	diskette
VIII-18	Figure of the drawings which should accompany the abstract		
VIII-19	Language of filing of the international application	English	
IX-1	Signature of applicant or agent	Jenny Petering	
IX-1-1	Name	F B RICE & CO	
IX-1-2	Name of signatory	Jenny Petering	

FOR RECEIVING OFFICE USE ONLY

10-1	Date of actual receipt of the purported international application	
10-2	Drawings:	
10-2-1	Received	
10-2-2	Not received	
10-3	Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application	
10-4	Date of timely receipt of the required corrections under PCT Article 11(2)	
10-5	International Searching Authority	ISA/AU
10-6	Transmittal of search copy delayed until search fee is paid	

FOR INTERNATIONAL BUREAU USE ONLY

11-1	Date of receipt of the record copy by the International Bureau	

Lys (K)	arg; gln; asn	arg
Met (M)	leu; phe; ile;	leu
Phe (F)	leu; val; ile; ala	leu
Pro (P)	gly	gly
Ser (S)	thr	thr
Thr (T	ser	ser
Trp (W)	tyr	tyr
Tyr (Y)	trp; phe; thr; ser	phe
Val (V)	ile; leu; met; phe; ala; norleucine	leu

Mutants, Variants and Homology - Proteins

Mutant polypeptides will possess one or more mutations which are deletions, insertions, or substitutions of amino acid residues. Mutants can be either naturally occurring (that is to say, purified or isolated from a natural source) or synthetic (for example, by performing site-directed mutagensis on the encoding DNA). It is thus apparent that polypeptides of the invention can be either naturally occurring or recombinant (that is to say prepared using recombinant DNA techniques).

An allelic variant will be a variant that is naturally occurring within an individual organism.

Protein sequences are homologous if they are related by divergence from a common ancestor. Consequently, a species homologue of the protein will be the equivalent protein which occurs naturally in another species. Within any one species a homologue may exist as numerous allelic variants, and these will be considered homologues of the protein. Allelic variants and species homologues can be obtained by following standard techniques known to those skilled in the art. Preferred species homologues include those obtained from representatives of the same Phylum, more preferably the same Class and even more preferably the same Order.

A protein at least 50% identical to that of the present invention are included in the invention, as are proteins at least 70% or 80% and more preferably at least 90% identical to the protein of the present invention. The percent identity of a polypeptide is determined by GAP (Needleman, S.B. and Wunsch, C.D. (1970) J. Mol. Biol., 48:443-453) analysis (GCG program) with a

gap creation penalty = 8, and a gap extension penalty = 2. The query sequence is at least 20 amino acids in length, and the GAP analysis aligns the sequences over a region of at least 20 amino acids. More preferably, the query sequence is at least 30 amino acids in length, and the GAP analysis aligns the sequences over a region of at least 30 amino acids.

Mutants, Variants and Homology - Nucleic Acids

Mutant polynucleotides will possess one or more mutations which are deletions, insertions, or substitutions of nucleotide residues. Mutants can be either naturally occurring (that is to say, isolated from a natural source) or synthetic (for example, by performing site-directed mutagensis on the DNA). It is thus apparent that polynucleotides of the invention can be either naturally occurring or recombinant (that is to say prepared using recombinant DNA techniques).

An allelic variant will be a variant that is naturally occurring within an individual organism.

Nucleotide sequences are homologous if they are related by divergence from a common ancestor. Consequently, a species homologue of the polynucleotide will be the equivalent polynucleotide which occurs naturally in another species. Within any one species a homologue may exist as numerous allelic variants, and these will be considered homologues of the polynucleotide. Allelic variants and species homologues can be obtained by following standard techniques known to those skilled in the art. Preferred species homologues include those obtained from representatives of the same Phylum, more preferably the same Class and even more preferably the same Order.

A polynucleotide at least 60% identical to that of the present invention are included in the invention, as are proteins at least 80% or 90% and more preferably at least 95% identical to the polynucleotide of the present invention. The percent identity of a polynucleotide is determined by GAP (Needleman, S.B. and Wunsch, C.D. (1970) J. Mol. Biol., 48:443-453) analysis (GCG program) with a GAP creation penalty = 8, and a gap extension penalty = 2. The query sequence is at least 60 nucleotides in length, and the GAP analysis aligns two sequences over a region of at least 60 nucleotides. Preferably, the query sequence is at least 90 nucleotides in

length, and the GAP analysis aligns the two sequences over a region of at least 90 nucleotides.